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Testimony to the 21 January 2009 meeting of the New Jersey State Board of Education:

My name is John Sheehan , I live in Ridgewood , New Jersey. I'm a co-founder of the New Jersey Coalition for World Class Math. I have a doctorate in Chemical Engineering, and I learned in my early years as a graduate student to understand and appreciate the power of mathematics.

But I don't see an appreciation for the power of mathematics as I read the 2nd December 2008 draft of New Jersey's Core Curriculum Content Standards for Mathematics. During these five minutes I'll cover three examples of what in my opinion is wrong with New Jersey's standards.

First, New Jersey's standards are rife with vague language. Here's an example for Grade 5: 'Construct, use, and explain procedures (pencil and paper, mental math, or calculator) for performing calculations with fractions and decimals.' We expect our 5th graders to 'construct' mathematics? We need, and far more than 99% of professional mathematicians would agree with me, concrete language to describe what is expected. Here is an example in the Massachusetts standard, considered one of the best: 'Accurately and efficiently add, subtract, multiply, and divide positive fractions and mixed numbers. Simplify fractions.' Now that sounds like mathematics.

Second, New Jersey's standards encourage the use of calculators from the 2nd grade!

Compare this to a quote in the California Mathematics Content Standards: "Students require a strong foundation in basic skills. Technology does not replace the need for all students to learn and master basic mathematics skills. All students must be able to add, subtract, multiply, and divide easily without the use of calculators or other electronic tools."

For my third point, let's move to Grades 9-11. Here's what New Jersey's standards say about Grades 9-11: Absolutely nothing. New Jersey's standards simply skip Grades 9-11. Compare this to California : Their students are required to take Algebra, Geometry, Algebra II, and Probability and Statistics from Grades 9-12. The standards are well defined, along with AP standards.

John G. Sheehan, Ph.D. (Continued)

These are just a few examples of what's wrong with New Jersey's math standards.

In closing, I have three main points:

1. A re-write to New Jersey's standards consistent with leading states including California, Massachusetts, and Indiana is needed to enable our kids to study advanced mathematics, or move into science and technical careers, if they choose. Poor math standards shouldn't make this choice for them.
2. I request that the New Jersey BOE vote against the adoption of the 2 December 2008 draft of the Core Curriculum Content Standards for Mathematics, and call for a halt to the standard revision process until professional mathematicians with experience in writing rigorous standards can be involved.
3. But this could be costly and take time. In the interest of saving taxpayer money, there is a faster, less costly way: I request your consideration of a resolution to wholesale adopt the California Mathematics Content Standards.